



# Resilient Virginia Tools for Resiliency Planning

## Virginia Coastal Resilience Web Explorer

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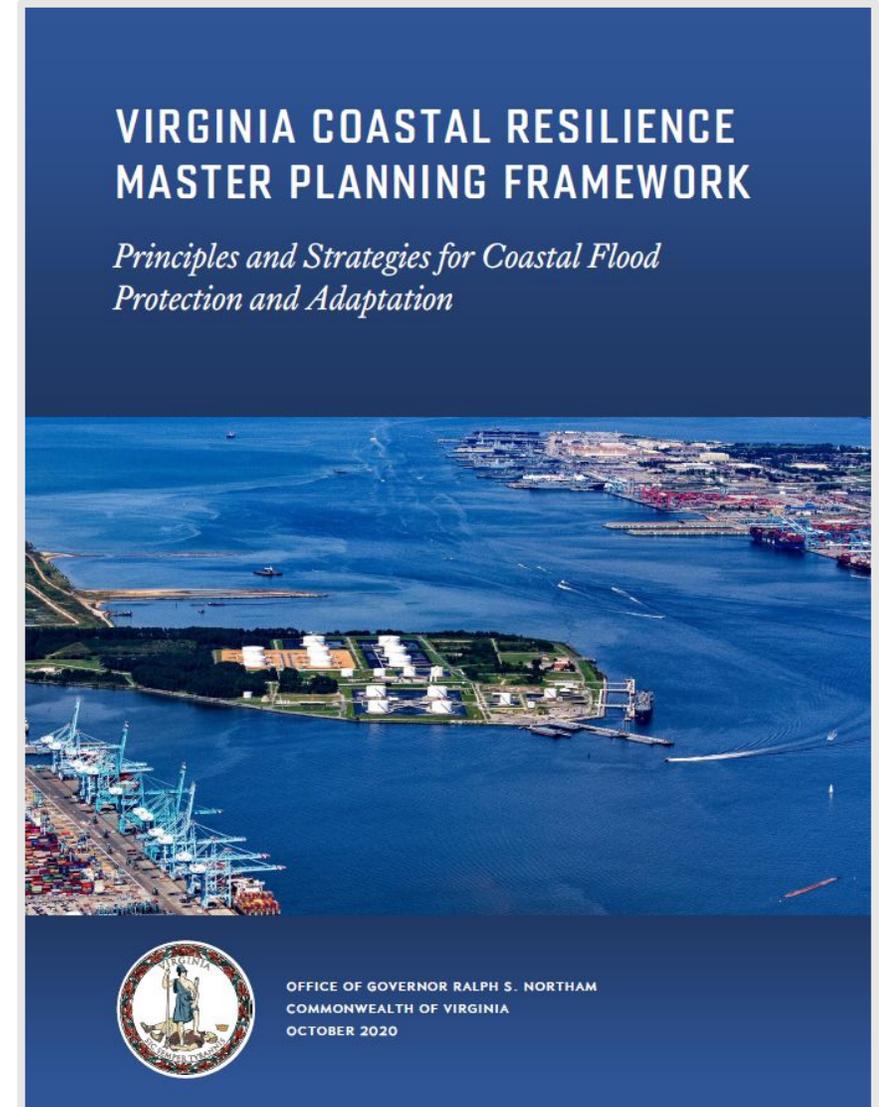


# Presentation Outline

- Virginia Coastal Resilience Master Plan Overview
- CRMP Website Overview
- Coastal Resilience Web Explorer Demonstration
  - Exposure
  - Impacts
  - Community Context
  - Projects and Initiatives
  - Funding

# Guiding Principles

- **Acknowledge climate change and its consequences**, and base decision-making on the **best available science**.
- Identify and address **socioeconomic inequities** and work to **enhance equity** through coastal adaptation and protection efforts.
- Recognize the importance of **protecting and enhancing green infrastructure** like natural coastal barriers and fish and wildlife habitat by **prioritizing nature-based solutions**.
- Utilize **community and regional scale planning** to the maximum extent possible, seeking region-specific approaches tailored to the **needs of individual communities**.
- Understand **fiscal realities** and focus on the most **cost-effective solutions** for protection and adaptation of our communities, businesses and critical infrastructure.



# Goals

1. Identify and prioritize projects to **increase the resilience of coastal communities**, including both built and natural assets at risk due to flooding and sea level rise
2. Establish a financing strategy, informed by regional differences and equity considerations
3. **Incorporate and promote climate change projections** into Commonwealth's programs addressing coastal adaptation and protection
4. **Coordinate state, federal, regional, and local** coastal region adaptation and protection efforts

# What We've Done



# Virginia Coastal Resilience Master Plan



**2021 Virginia Coastal Resilience Master Plan**



**Coastal Resilience Web Explorer**



**Open Data Portal**



**Master Planning Framework**



**Technical Advisory Committee**



**Outreach and Engagement**

[dcr.virginia.gov/crmp/](https://dcr.virginia.gov/crmp/)

# Web Explorer Demonstration Objectives

- What Areas are Vulnerable to Coastal Flooding?
- What are the Impacts from Coastal Flooding?
- What are We doing to Build Flood Resilience?
- How are We Funding Flood Resilience?

# Web Explorer Demonstration

[dcr.virginia.gov/crmp/ResilienceExplorer](https://dcr.virginia.gov/crmp/ResilienceExplorer)



**Email Questions or Comments to:**  
**[Flood.Resilience@dcr.virginia.gov](mailto:Flood.Resilience@dcr.virginia.gov)**

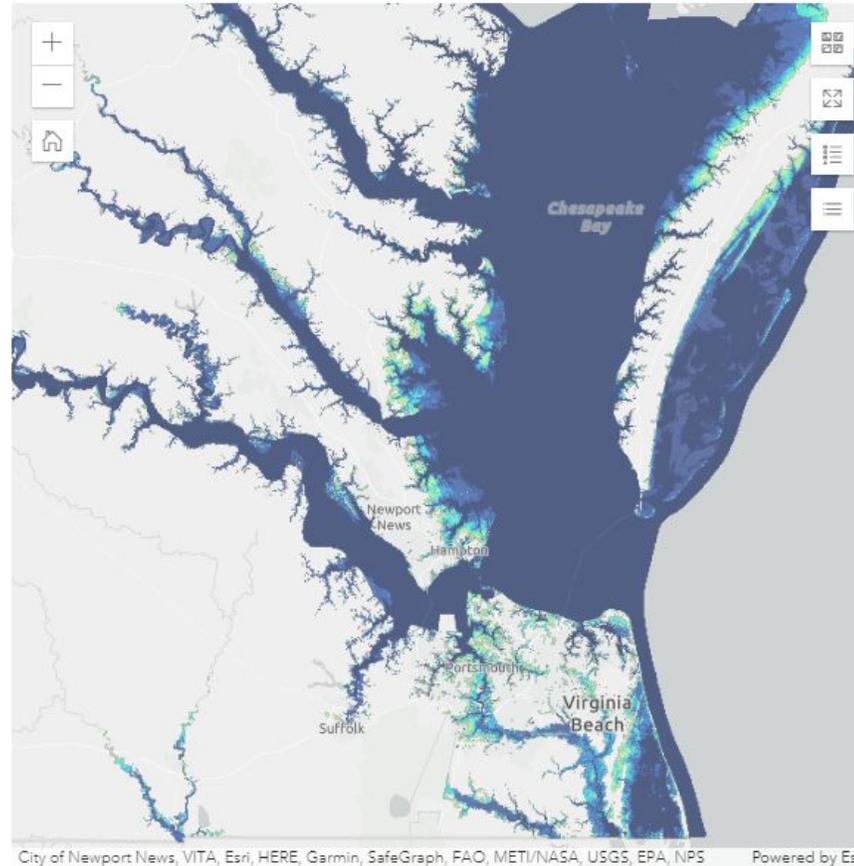
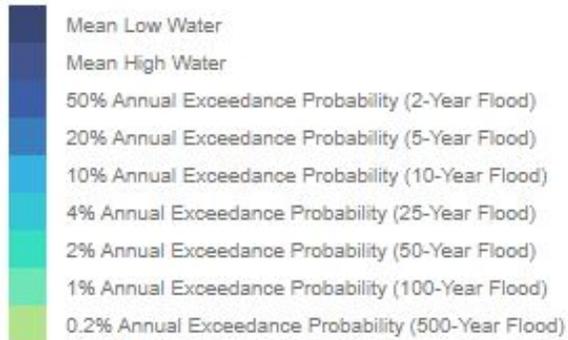
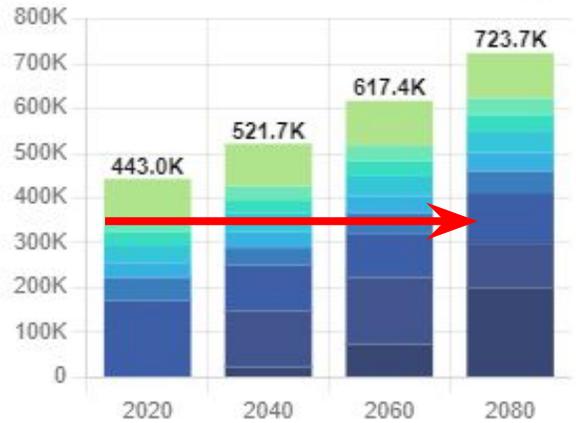
**Meeting Request Form**

**[dcr.virginia.gov/crmp/meeting-request.php](https://dcr.virginia.gov/crmp/meeting-request.php)**

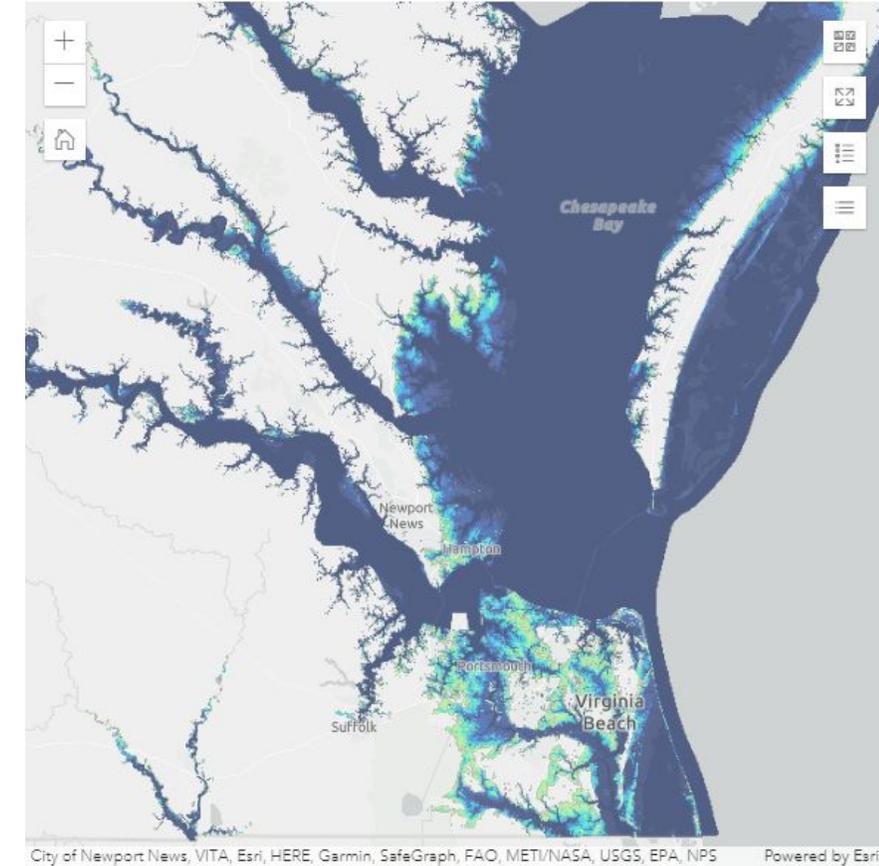
# Web Explorer Demo Slides

# Coastal Flood Hazard with SLR [NOAA 2017 Int-High]

Acres of Land Area Inundated Across Flood Event Type



2020



2080

# Coastal Flood Hazard with SLR [NOAA 2017 Int-High]

Sea level rise increases coastal flood hazards in both extent and frequency. ⓘ

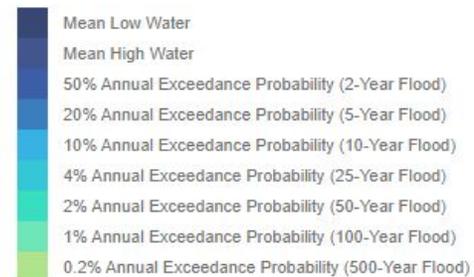
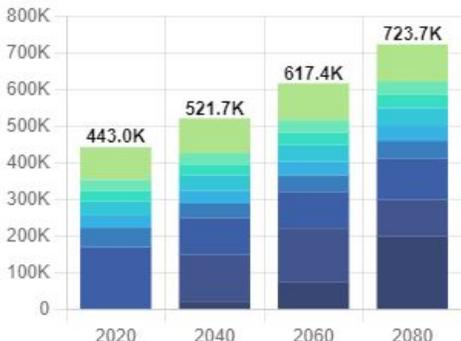
## Select Area of Interest:

Commonwealth  Virginia

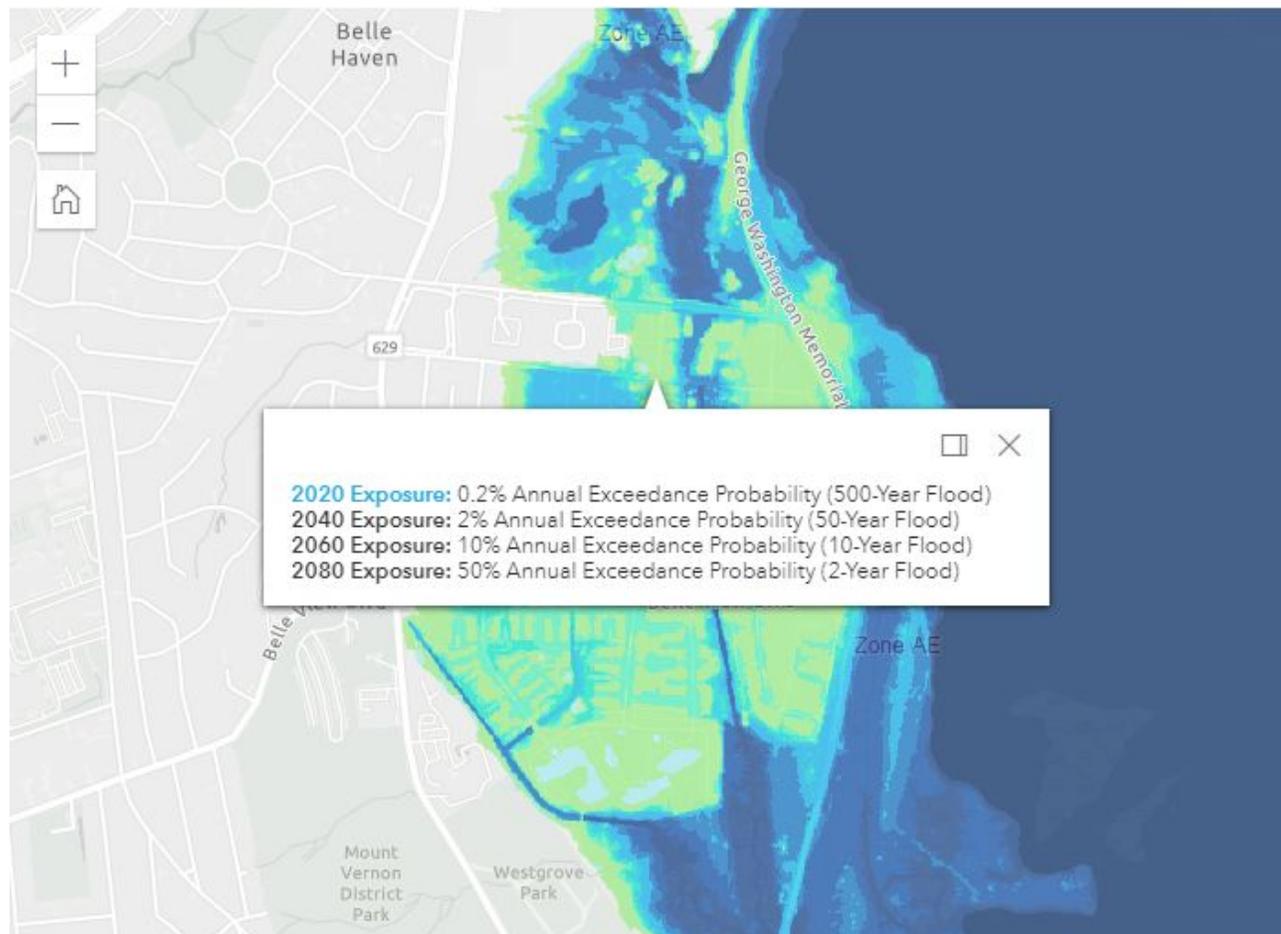
## Coastal Flood Time Horizon:

2020 2040 2060 **2080**

Acres of Land Area Inundated Across Flood Event Type



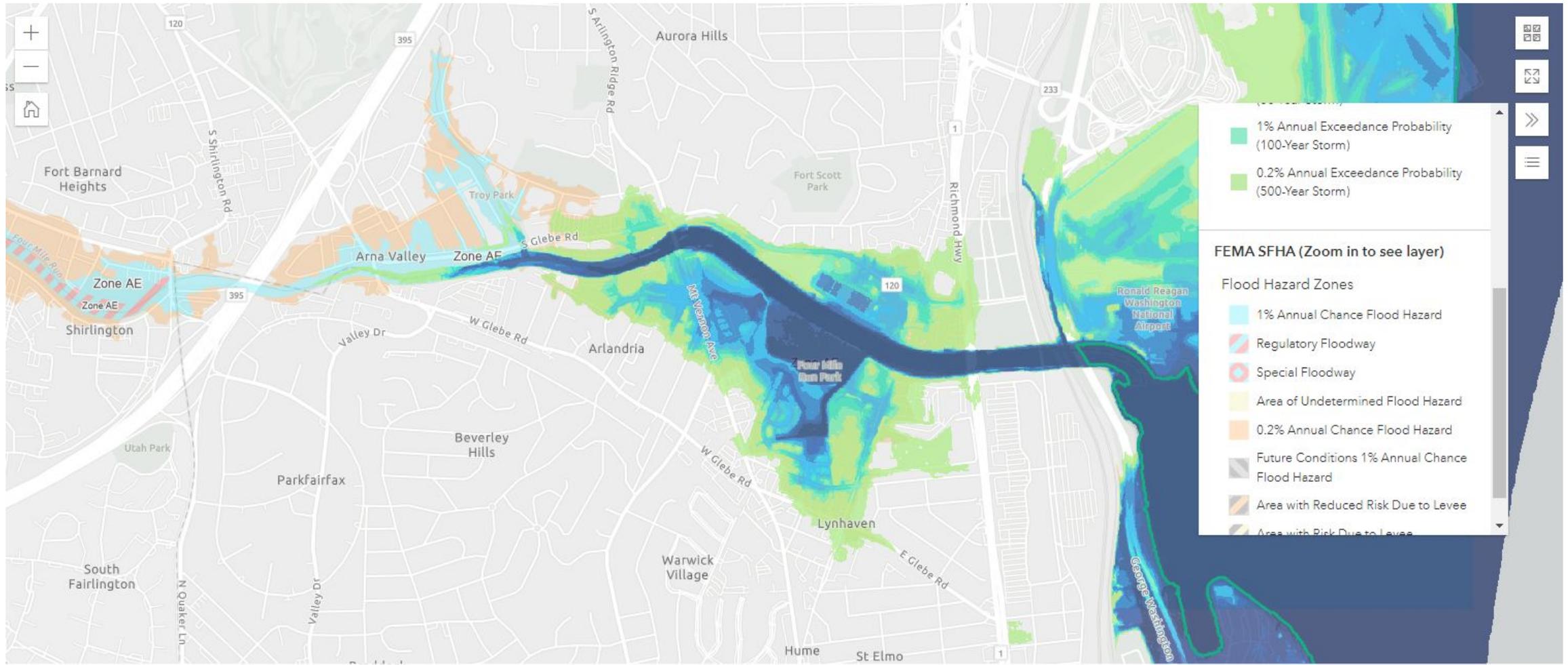
Notes and Limitations



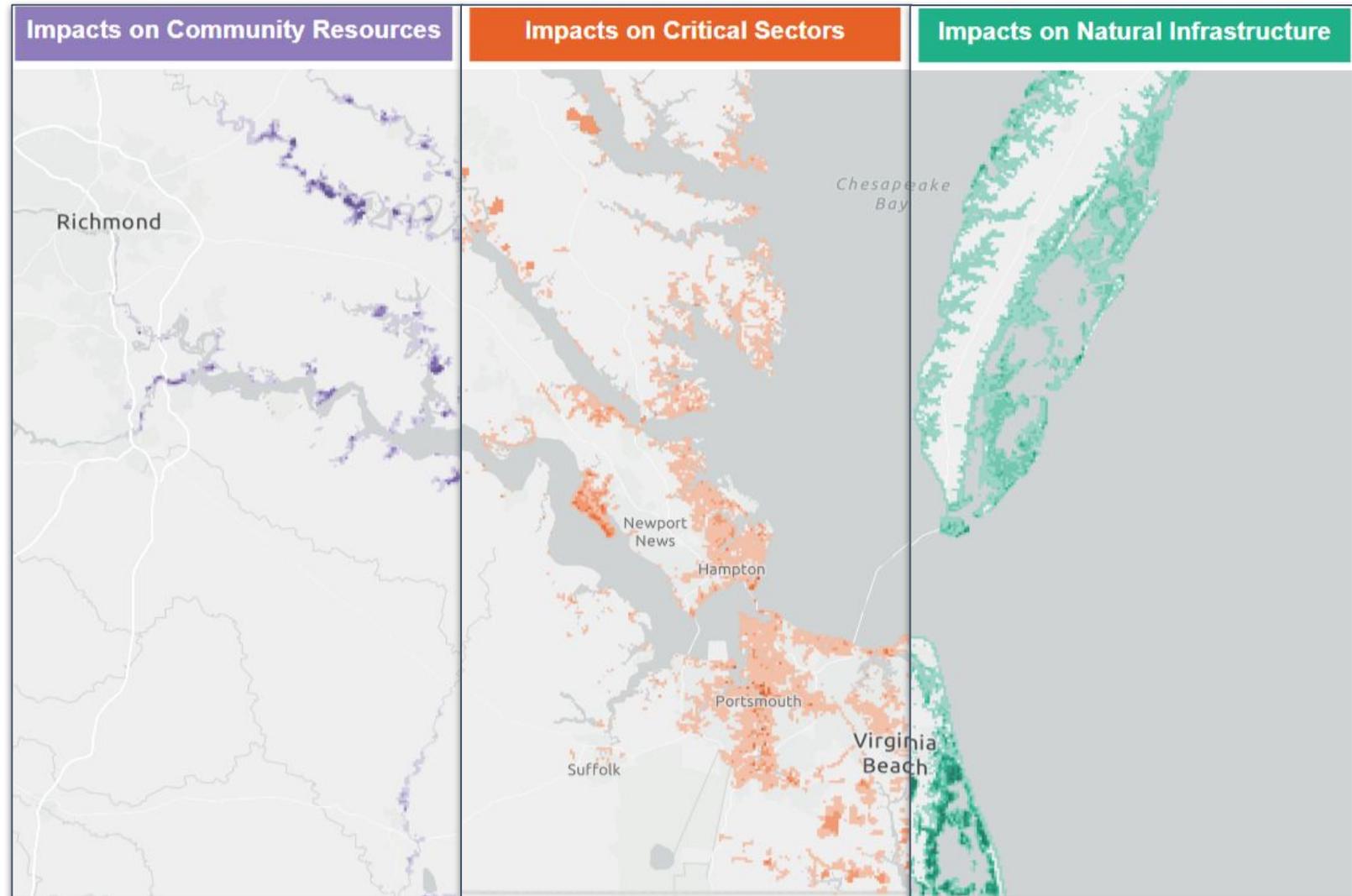
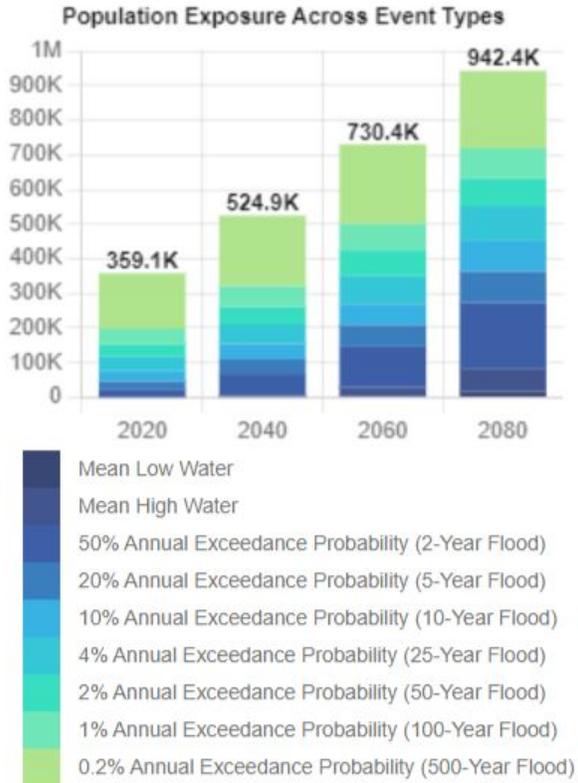
Tabular Hazards Data

Open Data Portal

# Coastal Flood Hazard $\neq$ Total Flood Hazard

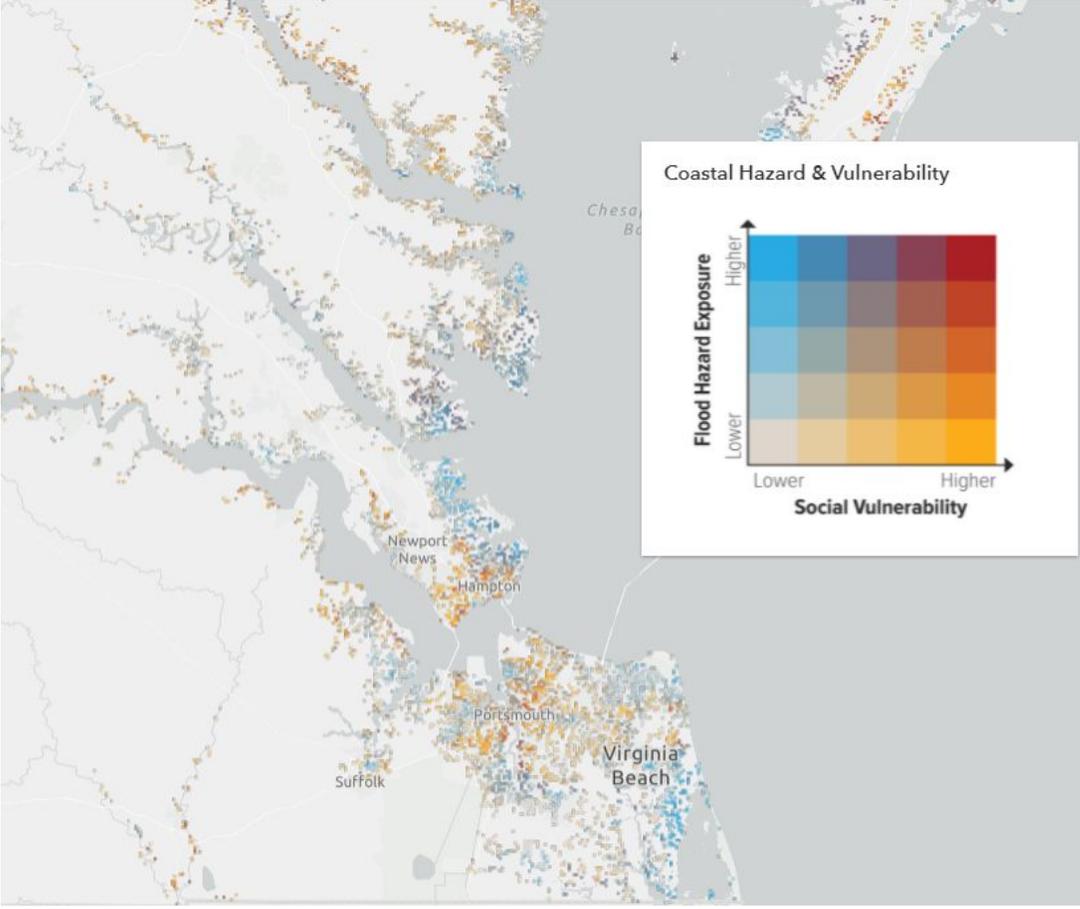
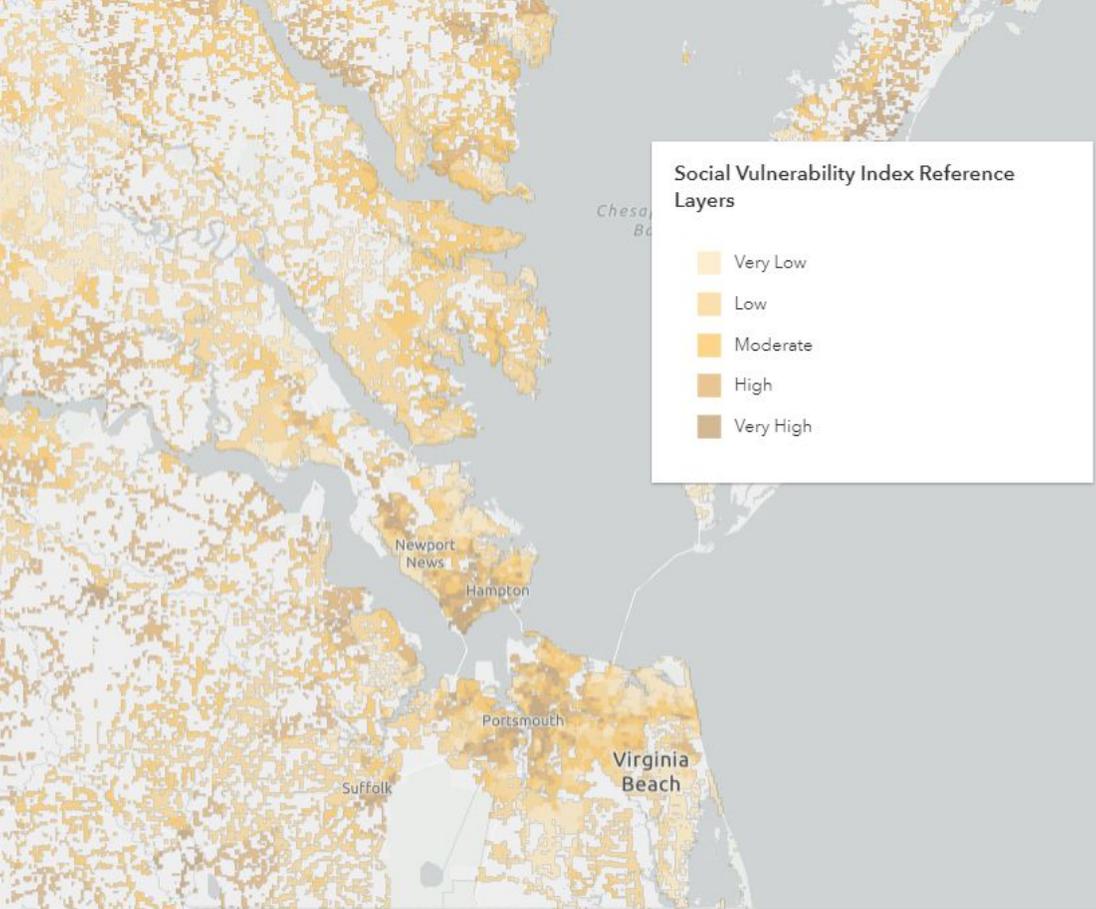


# Coastal Flood Hazard Impacts



Tabular Impacts Data

# Community Context



# Building Flood Resilience

**Select Area of Interest:**  
Commonwealth: Virginia

**Filters:**  
Category: All  
Hazard Addressed: All  
Project Class: All  
**Reset All Filters & Map**

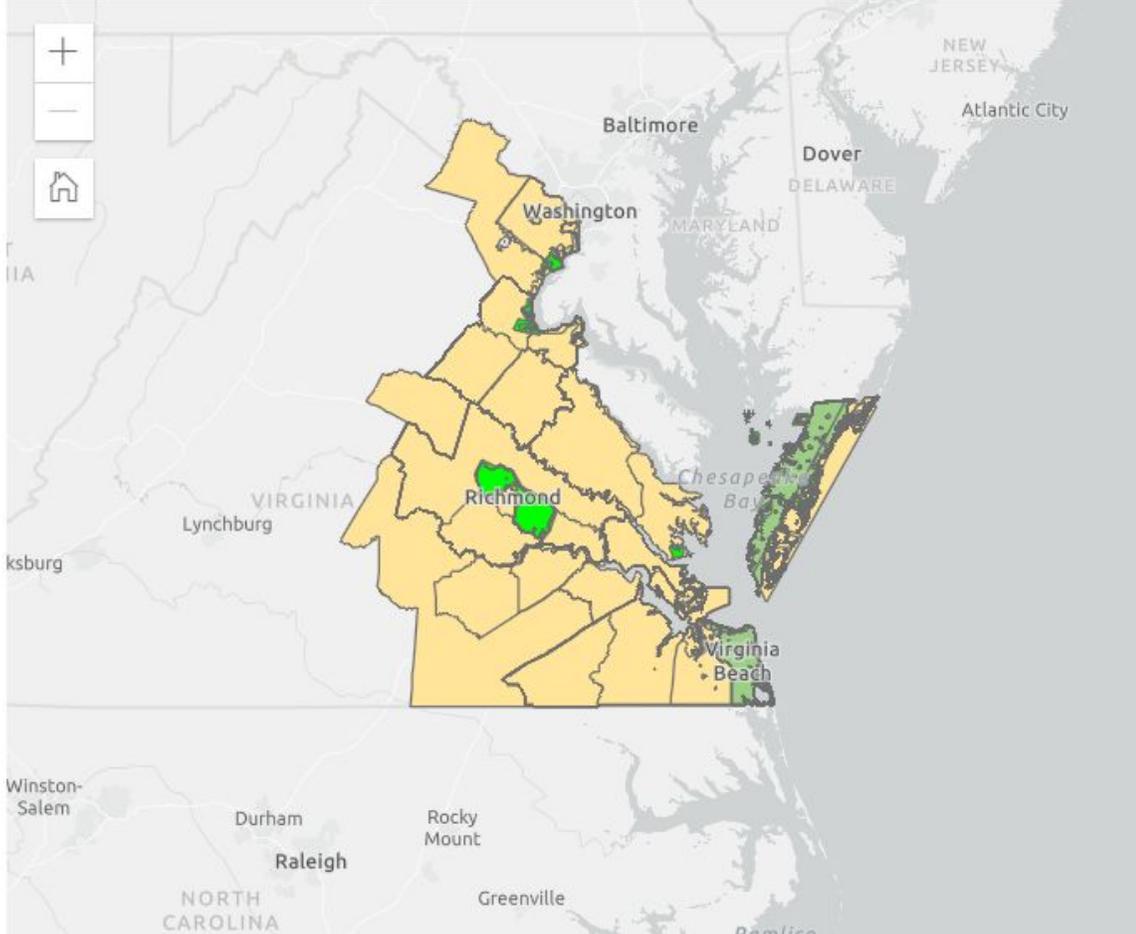
**Additional Map Layers:** Clear Map Layers

- Coastal Floodplains +
- Community Resource Impact Areas +
- Critical Sector Impact Areas +
- Natural Infrastructure Impact Areas +
- Coastal Hazard and Social Vulnerability +

**Search:**  **Clear**

Projects and Initiatives (Features: 517, Selected: 0)

<input checked="" type="checkbox"/>	Name
<input type="checkbox"/>	18th Street Drainage Improvements
<input type="checkbox"/>	1. Crow's Nest Peninsula and Estuary Conservation
<input type="checkbox"/>	2019 FMA
<input type="checkbox"/>	5th Street Improvements
<input type="checkbox"/>	Aberdeen Gardens Drainage Improvements
<input type="checkbox"/>	Aberdeen Road Disconnect Wet Pond
<input type="checkbox"/>	Aberdeen School Neighborhood Park ED Wetland Retrofit
<input type="checkbox"/>	Amherst Road Wetlands
<input type="checkbox"/>	Annual Coastal Bays seagrass restoration
<input type="checkbox"/>	Appomattox River Trail (blueway and greenway)
<input type="checkbox"/>	Aquatic Center Parking Lot
<input type="checkbox"/>	Aquisition of LiDAR Data
<input type="checkbox"/>	Aragona Drainage Improvements



The map displays the state of Virginia with various project locations highlighted in yellow and green. Major cities like Washington, Baltimore, Richmond, and Virginia Beach are labeled. Surrounding states and the Chesapeake Bay are also visible.

# Funding Flood Resilience

VA Funding for Projects (Features: 96, Selected: 0)

Name	Administering Office	Funding Source	Funding Type	Purpose
Addressing the Impacts of Multiple Stressors on Shellfish Aquaculture Through Research/Industry Partnerships	National Oceanic and Atmospheric Administration (NOAA) Oceanic and Atmospheric Research	NOAA	Federal	Supports: establishing, continuing, and/or expanding collaboration between researchers and shellfish growers in order to address how acidification and at least one other environmental stressor affects the U.S. shellfish aquaculture industry. Project multiple parameter physical, chemical, or biological observing systems and/or conduct multiple stressor experimental research. Priorities of this funding opportunity are to (1) build or strengthen relationships between the shellfish aquaculture industry and aquaculture research community (including university, industry, private sector, tribal, state, and/or federal scientists representing various perspectives), (2) develop scientific knowledge on the impact of ocean and coastal acidification in combination with other stressors on shellfish aquaculture, and (3) create data products, tools, technologies, management practices, or other deliverables that are applicable to building resilience within the shellfish aquaculture sector.
Building Resilience Against Climate Effects: Implementing and Evaluating Adaptation Strategies that Protect and Promote Human Health	National Center for Environmental Health	CDC	Federal	Supports: the building and enhancement of the resilience of U.S. cities and states to the health impacts of climate change through overarching strategies. These strategies include 1) collaboration with stakeholders to create a Climate Impact Compendium data on local climate projections, health effects, social determinants of health, and current adaptive capacity; 2) implementation and evaluation of adaptation actions that address the threats identified in the Compendium; and 3) use and dissemination of evidence to improve adaptation actions and enhance understanding of effective climate resilience adaptations in public health and research.
Bureau of Indian Affairs (BIA) Tribal Climate Resilience Program	Department of Interior, Bureau of Indian Affairs (BIA), Trust Services, Tribal Climate Resilience Program	BIA	Federal	Supports: tribal resilience and ocean and coastal management and planning. The Tribal Climate Resilience Program supports tribes to prepare for climate change impacts on tribal trust and trust resources, economies, infrastructure, and human health and safety. Available Funding: - Adaptation planning - Ocean and Coastal Management Planning - Capacity Building - Relocation, Mitigation, or Protect-in-Place Planning - Internships and Youth Engagement